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Improving Access to Rural Residential Homes in West Virginia

The Situation:

Many low volume roads and bridges exist throughout West Virginia that are not maintained by a governmental agency. Often, these roads and bridges are not maintained properly resulting in unsafe access to residential homes.

In many locations, citizens lose service from various providers because of the inferior condition of their bridges. For example, heating oil is not delivered to those who need it or ambulance service is not available to those who required emergency medical care. Fire departments are unable to offer fire protection because the bridges cannot be crossed safely. These issues also directly impact residents who want fire protection insurance for their homes. Occasionally, postal and parcel delivery services are not possible.

Actions:

In 1998, the West Virginia Legislature found and declared it to be important for the economic and social development of the state that a program for the identification, acquisition, and maintenance of orphan roads and bridges be undertaken by the West Virginia Division of Highways. In particular, the Legislature concluded that basic maintenance should be performed on orphan roads and bridges to promote the well-being of the public.

To date, more than 3,216 orphan roads, totaling slightly over 769 miles, have been adopted into the state highway system. These roads serve an estimated 25,000+ families.

Considering the low average daily traffic of these roads, the WV Division of Highways developed several low-cost bridge designs that are easy to build, simple to maintain, and will accommodate residential traffic with an occasional heavy load from emergency vehicles, delivery/moving trucks, or residential construction vehicles.

In 1999, the WV Division of Highways and the USDA Forest Service developed a partnership. The Forest Service, through its *Wood In Transportation Program*, provided a \$95,000 grant to assist in the building of nine orphan road bridges. In 2000, the Wood In Transportation Program provided a \$100,000 grant to assist in the building of 11 orphan road bridges. To date, 14 new bridge replacement projects have been completed on orphan roads for a total cost of \$292,945.

Bridge designs employing new pressure-treated lumber for bridge decks use West Virginia native material when possible. New or used steel beams are used as supporting members. Substructure units are built using gabion wire baskets filled with stone, steel pilings, railroad ties, or used median barriers.

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Department of
Transportation



USDA
Forest Service



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The photographs below show a typical structure that used gabion abutments, steel stringers, and a pressure-treated lumber deck. This type of bridge can be constructed in approximately one week for about \$25,000 and meets all the needs of low-volume residential traffic.

Hartwell Lane, HARP 901/32, McDowell County



Pressure Treated Lumber Deck



Basket Abutments



Steel Stringers

Benefits:

Many residents now have safe, improved access to their homes. Service providers, such as emergency vehicles and fire equipment, can reach residences safely. Basic improvements and maintenance of orphan roads and bridges are promoting increased well-being of the public.

For additional information about the Orphan Road and Bridge Program, contact:

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